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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,880	01/25/2002	Gerhard Koelle	1958	1218

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EXAMINER
CUEVAS, PEDRO J

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/031,880	KOELLE ET AL.	
	Examiner	Art Unit	
	Pedro J. Cuevas	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____ .
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-8 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-8 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 25 January 2002 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____ .
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on June 6, 2000. It is noted, however, that applicant has not filed a certified copy of the 100 27 859.0 application as required by 35 U.S.C. 119(b).

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 1 is rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure, which goes to make up the device, must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

6. Claim 1 recites the limitations “the range of an idle speed”, “the torque line (29)”, “the output of electrical power (12)”, and “the number of coils w1, w2”. There is insufficient antecedent basis for this limitation in the claim.

7. Claim 2 recites the limitations “the voltage difference”, “vehicle electrical system (10)”, “the motor vehicle”, and “the machine terminals (5)”. There is insufficient antecedent basis for this limitation in the claim.

8. Claim 3 recites the limitations “the power output (12)”, “the electrical machine (1)”, and “the pulse-width modulation inverter configuration (6)”. There is insufficient antecedent basis for this limitation in the claim.

9. Claim 4 recites the limitation “the pulse width modulation inverter (6)”. There is insufficient antecedent basis for this limitation in the claim.

10. Claim 5 recites the limitations “the output of electrical power (12)”, and “the power curve (24)”. There is insufficient antecedent basis for this limitation in the claim.

11. Claim 6 recites the limitations “the electrical machine (1)”, and “the inception speed (25.1, 25.2)”. There is insufficient antecedent basis for this limitation in the claim.

12. Claim 7 recites the limitations “the lower speed range”, “the output of electrical power (12)”, “the torque line (29)”, and “the pulse width modulation inverter (6)”. There is insufficient antecedent basis for this limitation in the claim.

13. Claim 8 recites the limitations “the average efficiency”, and “the electrical machine (1)”. There is insufficient antecedent basis for this limitation in the claim.

14. The term “upper” in claim 1 is a relative term, which renders the claim indefinite. The term “upper” is not defined by the claim, the specification does not provide a standard for

ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

15. The term “almost” in claim 7 is a relative term, which renders the claim indefinite. The term “almost” is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

16. The term “smaller” in claim 8 is a relative term, which renders the claim indefinite. The term “smaller” is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

17. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

18. Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,672,291 to Rossenberg.

Rossenberg clearly teaches the construction of a variable speed electrical machine comprising:

- an excitation winding (37, 37a);
- a stator winding (39) with a small number of coils;
- a converter configuration (9);

wherein the output electrical power is obtained when the electrical machine is operating along the resulting torque line at any operational speed.

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Claims 2-4, and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,672,291 to Rossenberg in view of U.S. Patent No. 5,231,344 to Marumoto et al.

Rossenberg disclose the construction of a variable speed electrical machine as described above.

However, it fails to disclose a pulse-width modulation inverter, which processes a current that is inversely proportional to the number of coils of the stator winding of the electrical machine.

Marumoto et al. teach the construction of a control apparatus for electric generator having a pulse-width modulation inverter, which processes a current that is inversely proportional to the number of coils of the stator winding of the electrical machine for the purpose of controlling the duty cycle of the chopper in response to the operating conditions of the engine.

It would have been obvious to one skilled in the art at the time the invention was made to use the a pulse-width modulation inverter disclosed by Marumoto et al. on the variable speed electrical machine disclosed by Rossenberg for the purpose o f controlling the duty cycle of the chopper in response to the operating conditions of the engine.

21. With regards to claims 6-8, Rossenberg in view of Marumoto et al. disclose a variable speed electrical machine wherein:

the number of stator windings can be selected independently of the inception speed ;

in the lower speed range, the output of electrical power takes place almost up to its maximum value according to the torque line via the pulse-width modulation inverter; and

the average efficiency of the electrical machine is increased by outfitting the electrical machine with a smaller number of coils.

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pedro J. Cuevas whose telephone number is (703) 308-4904. The examiner can normally be reached on M-F from 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor R. Ramírez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-1341 for regular communications and (703) 305-3432 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Pedro J. Cuevas
April 21, 2003

